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AUTHOR Martin, Gary L.; And Others
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ABSTRACT

A three-year longitudinal description is presented of a college health aide program, and an assessment is made of the changes resulting from a cutback in funding. In this program students are trained as paraprofessional health aides and serve in this capacity in their group residences for a small weekly salary. A record of the number of visits reported by these aides and the type of indisposition they deal with was compiled over a three-year period. A comparison is made of this record and the services rendered following a considerable cutback in the funding of the program. (JD)

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A LONGITUDINAL ANALYSIS OF A PEER HEALTH AIDE PROGRAM

Gary L. Martin, Ph.D.
Assistant Professor

Ian M. Newman, Ph.D.
Professor

Mark Carlson
Student

School of Health, Physical Education and Recreation
210 Coliseum
University of Nebraska-Lincoln
Lincoln, Nebraska 68588

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Introduction

The involvement of paraprofessionals in the health care delivery system is a relatively recent development in this country. While there exists no formal description of the duties of these individuals, they most frequently have been described as providing some routine medical services and engaging in health education functions. Warnecke, et al.,[1] have described the work of health guides in making referrals and encouraging the use of preventive health services. Brand[2] has suggested that nutrition aides can also assist with family planning programs and Cauffman[3] has reported that health aides were as effective as medical professionals in assuring compliance with medical regimens for upper respiratory illnesses. Herbert, et al.,[4] have described the role of indigenous health workers as part of a mental health delivery system.

In each of these cases, it has been reported or implied that the paraprofessional is performing a health education function. This function may be to maintain health and prevent illness or assist in the control of health problems.

The use of paraprofessionals in the college health care system has received a good deal of recent attention. Several authors have provided descriptions of the role and functions of students in the delivery of campus health programs.[5,6,7,8] Others have attempted to analyze the relative contribution of this paraprofessional effort.[9,10,11] Again, the two primary thrusts seem to be (a) education for health maintenance and the prevention of disease and injury and (b) the delivery of helping services. In most instances the use of paraprofessionals is a relatively new change in the health care system and most attempts to describe or evaluate these efforts have been formative in nature.

The Nebraska Program

The health aide program at the University of Nebraska-Lincoln has been described in detail in other publications.[7,11] The basic program consisted of

approximately 140 students trained in first aide and enrolled in a one credit hour health education class each of two semesters. The student health aides are paid $5.00 a week by the University Health Center and function as paid employees, providing over the counter medication for various health problems, first aide care, advice and referral for health needs and health education programs for their living units.

From its inception in 1958 until 1978 the program experienced stable administrative support and followed a consistent pattern of activities. For the 1978 school year budgetary constraints directed a substantial decrease in parts of the program.

The present paper presents a three year longitudinal description of the program and the health aides and an assessment of the changes resulting from the program cutback.

Methods

Health aides routinely complete a weekly report form which categorizes the types of complaints presented to health aides by students along with a description of the types of educational activities conducted by the health aide. Additionally, space is provided for a narrative description of the nature of the problem or activity. These reports are reviewed by the professional staff of the University Health Center and then the data is keypunched for computer analysis.

This longitudinal description of the health aide program is based on these weekly reports collected over three consecutive years. The examination of the effect of the program cutback was provided by comparing health aide activities before and after the actual program changes.

Results

Health Aide Activities

A longitudinal perspective of health aide activities is provided for the school years 1975-76 through 1977-78 in Table 1. These data were summarized by combining the weekly reports completed by the health aides. As seen in the table, the health aides recorded nearly 20,000 visits during each school year with less than 10 percent of all visits referred elsewhere for assistance. Nearly 75 percent of all visits were associated with receiving non-prescription medication and the total of the average number of weekly visits per health aide ranged from 144 to 173 for the year.

Examination of the types of visits to the health aide reveals a remarkably stable pattern over the three years. This is particularly significant in that each year an entirely different group of health aides is recruited and there is also a good deal of turnover in the individuals comprising the population of campus resident students. Nearly half of the visits to health aides were for "upper respiratory" problems. Injuries and Headaches represented the next most common reasons for health aide visits. There appeared to be some minor shifts in the relative rankings of these two problems over time. These are followed closely by "Abdominal"problems and "Genito-urinary" problems. It should be noted that over 90 percent of the Genito-urinary problems were reported for females, usually menstrual problems, thus half the students are not generally at risk for this category of problems. Visits primarily for information or for personal concerns did not appear to constitute a significant proportion of the volume of health aide visits.

The Health Education Activities and Environmental Health and Safety activities were represented by frequency counts on the reporting sheet. The quantitative data masks the qualitative nature of these activities. For

example, a Health Education Activity may be recorded when a poster is placed on a bulletin board or it may reflect the occurrence of an organized meeting with a physician providing contraceptive education. The Environmental Health and Safety category is equally ill-defined reflecting activities associated with assisting with a fire drill or other "safety efforts".

The calculated data in Table 1 was based upon weekly averages. Thus the Average Weekly Visits per 1,000 Students is derived by taking the mean of all the weekly reports for the year. Similarly the Total Average Visits per Health Aide is the sum of the Weekly Average Visits per Health Aide. The first indicator is used as a measure of health aide's coverage or the population served; the second a measure of the average load or responsibilities of the health aide.

The number of health aides was estimated by totaling the students registered on the grade rosters. The actual number did fluctuate with health aides sometimes moving out of their living unit, dropping the course or new health aides being added to the program (this usually occurred early in the first semester). For the remainder of the analysis, the health aides serving Cooperative Living Units are excluded and their respective activities not included in the totals. This is a small group of two to five individuals whose activities account for less than four percent of the total program. Because sampling was used, data on the Cooperatives was felt to be unstable for drawing inferences.

Program Evaluation

During the same three year time period the program staff conducted an annual evaluation late in the spring of each academic year. Although the methodology differed slightly from year to year, the basic procedure was to have health aides select a quasi random sample of the students in their living

unit. Between 1,300 and 1,700 questionnaires were distributed each year and return rates between 35 percent and 40 percent were attained.

The results of this evaluation procedure were generally quite satisfying. Although there were slight differences from year to year in terms of the sex of the respondent and the type of residence unit, there was a consistently positive response with an average of over 90 percent of the respondents indicating that the Health Aide Program was needed; 80 to 85 percent of the respondents indicated that they had used the services of their health aide; and 20 to 60 percent indicated that they had attended a Health Education Program. The latter figure did vary considerably among respondents with the Greek houses indicating the larger percentage of students attending the educational programs.

During the spring 1978 evaluations, two additional questions were added to the survey form: "The number of times you have utilized your health aide during the past two weeks" and "The number of times you have utilized your health aide during the school year". These data were tabulated for the entire sample of 207 Greek respondents and 230 dormitory respondents where the sex of the members of the living unit was the same (i.e., students residing in "mixed living units" were excluded to allow an accurate determination of the denominator population). The respondents' reported frequency of visits for the year and for the past two weeks were then projected for all similar students for the year and compared. These two projection methods revealed the respondents reporting two to three times the number of visits reported by the health aides. The variability depended upon the type of residence and sex of the respondents; however, in all cases there appeared an over-representation of health aide visits as reported by the student population.

Program Cutbacks

During the spring of 1978 it was decided that, due to budgetary reasons, the Health Aide Program would suffer a funding cutback of 30 percent. This decision was implemented by the program staff who felt that the least damage would occur with a reduction in the dormitory health aides. This meant that most of the remaining health aides would need to serve the students on two floors rather than one. By comparing the activities of different groups of health aides over time, it was anticipated that the effects of this program reduction could be determined.

To examine the effects of the reduction on the students served, a retrospective analysis of visits was conducted and a survey of students and health aides was conducted.

Student visits to health aides were compared for the fall semester, 1977 and 1978. Table 2 reveals that for the fall of 1978, the period of the cutback, there was a general increase in the productivity (Total Average Visits per Health Aide) of the health aides for all residence/sex combinations. The actual changes in student behavior (Total Visits and Rate of Visits) was found only in the male dormitory residences. During this time there was a 48 percent decrease in the number of male dormitory health aides and a 32 percent reduction in total visits. For the female dormitory units, a 37 percent reduction in health aides resulted in only a three percent decline in student visits.

The only appreciable changes in numbers of visits as a result of the decrease in health aides were attributed to the dormitory based male health aides. Thus, it is useful to examine the type of change in student visits. Only Headaches (-51%) and Health Education Activities (-50%) decreased proportionately with the decrease in health aides (-48%). In terms of the other major categories, Abdominal complaints (-40%); Medication Provided (-37%); and Upper

Respiratory complaints (-34%) were all below the percentage decrease in health aides. The number of Injuries (-7%) and the Referral Rate (+6%) were essentially unchanged from the previous year.

Summary

The Health Aide Program at the University of Nebraska-Lincoln remains a significant component of the campus health program. During a three year period the magnitude of this helping effort has remained relatively constant despite large turnovers in staff (health aides) and consumer population. The majority of visits to health aides were for physical complaints: upper respiratory infections, injuries, headaches, abdominal and genito-urinary complaints, with relatively few visits recorded for information and personal concerns.

A well-established procedure for seeking student evaluation was found to be less than satisfactory. Student evaluations were completed by individuals who were consumers of the health aide services and probably did not represent the entire student population served by the program. The evaluations did reflect favorably upon the acceptance of services received but did not provide an indication of the merits of the total program. It remains unclear if the majority of the students know about the program or if they have unmet health needs. A more rigorous sampling method coupled with provision for assuring a better return rate should provide a much more complete view of the student population's evaluation of this program.

Selective program cutbacks reduced the population of dormitory resident health aides by nearly 40 percent. However, only male dormitory units registered an appreciable decline in student visits. In the female dormitory units where the staffing cutbacks were less severe (32% as compared with the 48% decrease in the male units) it appeared that the female health aides were able to adjust to the change while continuing to deliver the same volume of services.

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Table 1

HEALTH AIDE VISITS BY TYPE AND DISPOSITION FOR A THREE YEAR PERIOD

Visit Type	School Year 1975-76 %	1976-77 %	1977-78 %
Upper Respiratory	45.5	43.0	50.0
Injury	17.8	17.4	13.9
Headache	14.4	16.2	15.9
Abdominal	10.4	11.2	9.6
Genito-urinary	5.2	4.8	3.6
Information	1.7	1.6	1.4
Personal	1.6	1.6	1.0
Other	3.4	4.2	4.6
TOTAL	100.0	100.0	100.0
N	19,059	17,367	18,082
Visit Outcome			
Percent Referred	7.8	7.1	5.8
Percent Given Medication	73.1	73.5	76.3
Other Activities			
Health Education Activities	3,397	3,401	2,656
Environmental Health and Safety	355	280	304
Calculated Data			
Average Weekly Visits/1000 Students	92.5	72.5	74.9
Total Average Visits per Health Aide	145	144	173
Population Data			
On Campus Population	7,250	7,250	7,250
Health Aides	147	153	137

Table 2

HEALTH AIDE VISITS FOR THE FALL SEMESTER BY SEX AND LIVING UNIT

Residence/Sex	1977	1978
DORM/MALE		
Health Aides	44	23
Visits	3,229	2,180
Total Average Visits per Health Aide	80.4	105.7
Average Visits per 1000 Students	74.0	50.1
DORM/FEMALE		
Health Aides	51	32
Visits	2,775	2,689
Total Average Visits per Health Aide	75.5	116.8
Average Visits per 1000 Students	65.8	63.8
GREEK/MALE		
Health Aides	26	25
Visits	2,181	2,071
Total Average Visits per Health Aide	113.7	117.6
Average Visits per 1000 Students	102.6	97.5
GREEK/FEMALE		
Health Aides	15	15
Visits	1,222	1,379
Total Average Visits per Health Aide	98.8	124.6
Average Visits per 1000 Students	84.6	95.4